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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,816	09/17/2003	Kinya Ozawa	116717	4045

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EXAMINER

DUONG, TAI V

ART UNIT PAPER NUMBER

2871

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/663,816	Applicant(s) OZAWA, KINYA	
	Examiner Tai Duong	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date, ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/17/03</u> | 6) <input type="checkbox"/> Other: ____ |

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-040428 (JP'428) cited by Applicant in view of Adachi et al and Grinberg et al.

The JP'428 discloses in Fig. 3 a liquid crystal device (LCD) comprising a LC layer 10 between first and second circular polarizers (20, 50) wherein the first and second circular polarizers include linear polarizers (21, 51) and quarter-wavelength retardation plates (22, 52). As to claims 1-6, the only differences between the LCD of JP'428 and that of the instant claims are the first and second circular polarizers having a birefringence characteristic that is set based on a peak wavelength of incident light, and the circular polarizers being formed of cholesteric liquid crystal (CLC). Adachi et al disclose that it was known to employ circular polarizers being formed of CLC and having a birefringence characteristic that is set based on a peak wavelength of incident light (paragraphs 0067-0074 and 0092). Grinberg et al disclose the drawbacks of circular polarizers including linear polarizers and quarter-wavelength retardation plates as low extinction ratios at the two extremes of the visible region, low efficiency and heat dissipation (col. 1, lines 5-45). Thus, it would have been obvious to a person of ordinary skill in the art in view of Adachi et al and Grinberg et al known to employ circular polarizers being formed of CLC and having a birefringence characteristic that is set based on a peak wavelength of incident light for obtaining a LCD with high extinction ratio, high

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efficiency, low heat dissipation and good color purity (Adachi, paragraph 0093). Also, it would have obvious to a person of ordinary skill in the art to employ circular polarizers including linear polarizers and quarter-wavelength retardation plates having a birefringence characteristic that is set based on a peak wavelength of incident light for obtaining a LCD with good extinction ratio, good color purity and low cost (as compared with CLC circular polarizers). As to claim 7, the JP'428 discloses that other types of the ECB mode can be used such as the perpendicular aligned liquid crystal SH (paragraphs 0041-0047 and 0076 of the English translation).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-040428, Adachi et al and Grinberg et al as applied to claim 1 above, and further in view of Yano.

Claim 8 additionally recites the use of the LCD of claim 1 as light valves in a multicolor projector. Yano disclose in Fig. 48 that it was known to employ LCD as light valves in a multicolor projector (paragraphs 0257-0261). Thus, it would have obvious to a person of ordinary skill in the art in view of Yano to employ the LCD of claim 1 as the light valves in a multicolor projector for obtaining a multicolor projector with improved efficiency of light utilization, good color purity and low dissipation heat.

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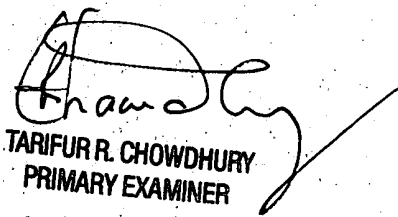
Any inquiry concerning this communication should be directed to Tai Duong at telephone number (571) 272-2291.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

TD

TVD

05/04


TARIFUR R. CHOWDHURY
PRIMARY EXAMINER